

Chapter 3 | The Cell

Test Yourself

1. Complete the table below.

	Requires energy?	Requires a semi permeable membrane?	Is the movement of water molecules only?	Molecules move from high to low concentration?	Molecules move from low to high concentration?
Diffusion				yes	
Osmosis					
Active transport		yes			yes

2. Red blood cells placed in a 5% salt solution would:

swell | stay the same | shrink?

3. Red blood cells placed in a 0.9% solution of salt would be in a:

hypotonic | isotonic | hypertonic solution?

4. White blood cells remove foreign bodies like bacteria from the body by engulfing them.
This process is known as...

5. Match the organelle in the left hand column of the table below with its function in the right hand column.

Organelle	Function
a. Nucleus	1. Modifies proteins and fats
b. Mitochondrion	2. Makes, modifies and stores proteins
c. Golgi body	3. Digests worn out organelles
d. Rough endoplasmic reticulum	4. Makes fats
e. Lysosome	5. Controls the activity of the cell
f. Smooth endoplasmic reticulum	6. Produces energy

6. The cell division that causes an organism to grow and repairs tissues is called:

7. The cell division that produces sperm and ova is called:

8. **Two** important differences between the two types of cell division named by you above are:

a)

b)

See next page for answers

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Test Yourself Answers

1. Complete the table below.

	Requires energy?	Requires a semi permeable membrane?	Is the movement of water molecules only?	Molecules move from high to low concentration?	Molecules move from low to high concentration?
Diffusion	no	no	no	yes	no
Osmosis	no	yes	yes	yes	no
Active transport	yes	yes	no	no	yes

2. Red blood cells placed in a 5% salt solution would shrink as water flowed out of them into the hypertonic salt solution around them.

3. Red blood cells placed in a 0.9% solution of salt would be in an isotonic solution.

4. White blood cells remove foreign bodies like bacteria from the body by phagocytosis.

5. Match the organelle in the left hand column of the table below with its function in the right hand column.

Organelle	Function
a. Nucleus	5. Controls the activity of the cell
b. Mitochondrion	6. Produces energy
c. Golgi body	1. Modifies proteins and fats
d. Rough endoplasmic reticulum	2. Makes, modifies and stores proteins
e. Lysosome	3. Digests worn out organelles
f. Smooth endoplasmic reticulum	4. Makes fats

6. The cell division that causes an organism to grow and repairs tissues is called **mitosis**

7. The cell division that produces sperm and ova is called **meiosis**.

8. **Two** important differences between mitosis and meiosis are:

- In mitosis the number of chromosomes in the cells formed is the same as in the original cell. In meiosis the number of chromosomes is halved.
- In mitosis the cells formed are genetically identical to the original cell. In meiosis they are different.